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	Form P	TO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783		
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)			Applicant Stanley T. Croo	Applicant Stanley T. Crooke		
	U.S. De	partment of Commerce and Trademark Office	Filing Date January 7, 2000	Group 1635 Not Yet Assigned		
	OTHER	R DOCUMENTS (Including Au	thor, Title, Date, Per	tinent Pages, Etc.)		
Μ	AA	Ausubel et al. (eds.), Current Pr New York	otocols in Molecular	Biology, 1988, Wiley & Sons,		
'	AB	Oligonucleotide Synthesis, A Pr	actical Approach, M	J. Gait, Ed., IRL Press, 1984		
	AC	Oligonucleotide and Analogs, A 1991, Chapters 1-7	Practical Approach,	F. Eckstein, Ed., IRL Press,		
	AD	Beaucage S. et al., "Advances in phosphoramidite approach", Tel	trahedron Letters, 193	72, 40, 2223 2311		
	AE	Beaucage S. et al., "The synthes phosphoramidite approach and	their applications, 16	erranearon, 1995, 1995		
	AF	Bhat et al., "A Simple and Con- Cytosine Nucleosides", Nucleo.	venient Method for th sides and Nucleotides	e Selective N-Acylations of , 1989 , <i>8</i> , 179-183		
	AG	Concise Encyclopedia of Polyn Kroschwitz, J.I., Ed., John Wild	ner Science and Engirely & Sons, 1990	neering, pgs. 858-859,		
	AH	Crooke, S.T. et al., "Progress in Pharmacol. Toxicol., 1996, 36,	n Antisense Oligonuc 107-129	leotide Therapeutics", Annu. Rev		
	AI	Crooke et al., "Kinetic characte various antisense oligonucleot	ide-RNA dupiexes, I	Jioenem. 6., 1550, 111		
	AJ	Dagle et al., "Targeted degradadirected by modified oligonuc Nucleic Acids Research, 1990.	ation of mRNA in Xe leotides: studies of A 18, 4751-4757	nopus oocytes and embryos no and cyclin in embryogenesis"		
W	AK	Dagle et al., "Pathways of Degr Oligonucleotides in Xenopus lae	adation and Mechanisn s <u>vis</u> Embryos", <i>Antisen</i>	n of Action of Antisense se Res. And Dev., 1991, I, 11-20		
EXAMI	NED		DATE CONS	sit is believed to be too voluming		

* A copy of this reference will not be forwarded to the Patent Office since it is believed to be too voluminous to send and easily obtainable by the Examiner.



		RADEMAN		Sheet 2 of	
	Forn	n PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783	
		of Patent and Publications Cited by Applicant several sheets if necessary)	Applicant Stanley T. Crooke		
	U.S. I	Department of Commerce nt and Trademark Office	Filing Date January 7, 2000	Group Not Yet Assigned	
	ОТН	ER DOCUMENTS (Including Autho	r, Title, Date, Perti	nent Pages, Etc.)	
M	AL	Dagle et al., "Physical properties of modified internucleoside linkages",	oligonucleotides co	ataining about	
1	AM				
	AN	De Mesmeker, et al., "Antisense Oligonucleotides", <i>Acc. Chem. Res.</i> , 1995 , <i>28</i> , 366-374 Englisch, U. et al., "Chemically Modified Oligonucleotides as Probes and Inhibitors", <i>Angewandt Chemie, International Edition Engl.</i> , 1991 , <i>30</i> , 613-629			
	AO	Haeuptle et al., "Translation arrest b coding sequences yields polypeptide 1986 , <i>14</i> , 1427-1448	v oligonucleotides o	amplementary to DALA	
	AP	Eder, P.S. et al., "Ribonuclease H fro Biol. Chem., 1991, 266, 6472-6479	om K562 Human Ery	throleukemia Cells", J.	
	AQ	Goodchild et al., "Conjugates of Oligonucleotides and Modified Oligonucleotides: A Review of their Synthesis and Properties", <i>Bioconjugate Chem.</i> , 1990 , <i>1</i> (3), 165-187			
	AR	Kawasaki et al., "Uniformly Modifie Oligonucleotides as Nuclease-Resista and Specificity for RNA Targets", J.	d 2'-Deoxy-2'-fluoro	Phosphorothioate	
	AS	Kawasaki et al., "Synthesis and Bioph Oligonucleotides", Conf. on Nucleic 2 1991, 10 pages	hysical Studies of 2'	dPibe 21 EM-11C 1	
	AT	Lengyel, J. Enzym. Res., 1987, 7, 511	-519		
	AU	Martin, "Ein neuer Zugang zu 2'-O-A Oligonucleotide", Helv. Chim. Acta.,	lkylribonucleosiden	und Eigenschaften deren	
V	AV	Menelev et al., Bioorg. & Med. Chem			
M	AW	Milligan, J. Med. Chem., 1993, 36, 19			
KAMINE	D		DATE CONSIDER		

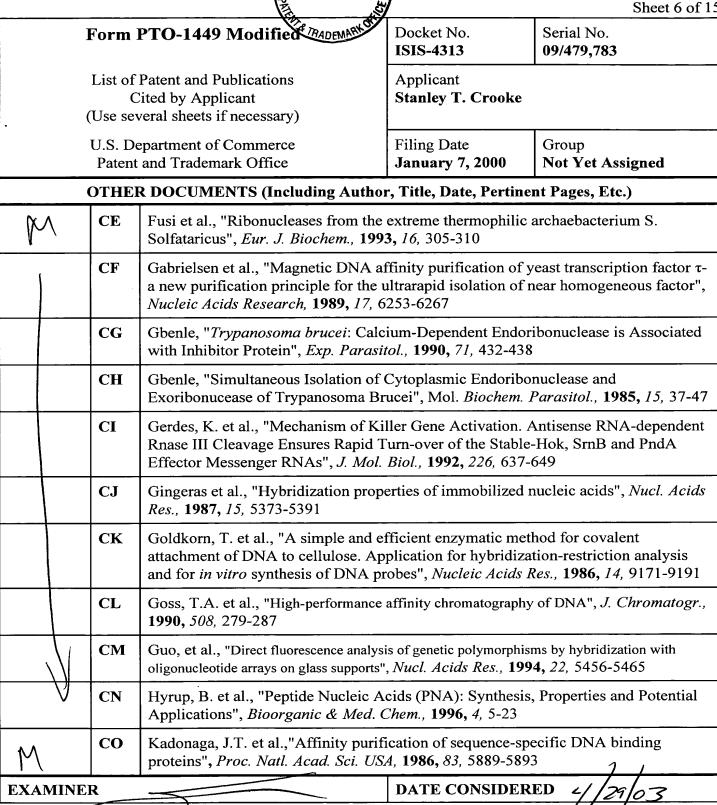


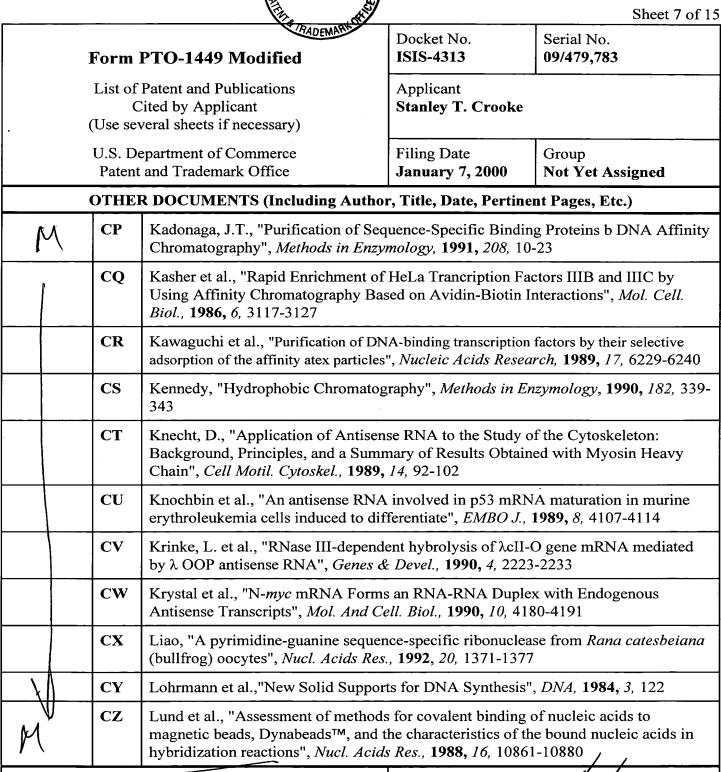
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]	Form I	PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783
	C	Patent and Publications ited by Applicant veral sheets if necessary)	Applicant Stanley T. Crooke	
		epartment of Commerce and Trademark Office	Filing Date January 7, 2000	Group Not Yet Assigned
	ОТНЕ	R DOCUMENTS (Including Author	r, Title, Date, Pertine	nt Pages, Etc.)
W	AX	Monia et al., "Selective Inhibition of Oligonucleotides", J. Biol. Chem., 1	f Mutant Ha-ras mRNA 992, <i>267</i> , 19954-1996	A Expression by Antisense
)	AY	Monia et al., "Evaluation of 2'-Modias Antisense Inhibitors of Gene Exp	ified Oligonucleotides pression", <i>J. Biol. Chen</i>	Containing 2'-Deoxy Gaps <i>a.</i> , 1993 , <i>268</i> , 14514-14522
	AZ	Reese, C.B. et al., "4-(1,2,4-Triazol-1-y Arabinofuranosyl)cytosine(Ara-C)", J. Ch	vl)-and 4-(3-Nitro-1,2,4-tria nem. Soc. Perkin Trans	nzol-1-yl)-1-(β-D- . <i>I</i> , 1982 , 1171 - 1176
	BA	Robins et al., "Nucleic acid related con O(1,1,3,3-tetraisoprpyldisilox-1,3-diyl)nu configuration ^{1,2} ", Can. J. Chem., 1983	ucleosides provide a conv	enient evaluation of anomeric
	ВВ	Saison-Behmoaras, T. et al., "Short against Ha-ras point mutation induc T24 cells proliferation", <i>EMBO</i> , 19 9	e selective cleavage of	gonucleotides directed the mRNA and inhibit
	ВС	Sands et al., "Biodistribution and M Olionucleotides. II. 3',5'-Blocked O <i>Ther.</i> , 1995 , <i>47</i> , 636-646	letabolism of Internally ligonucleotides", Am.	y ³ H-Labeled Soc. <i>Pharmacol. Exp</i> .
	BD	Stein, C.A. et al., "Antisense Oligon Really Magical?", Science, 1993, 20		utic Agents - Is the Bullet
	BE	Strickland et al., "Antisense RNA Di Dormant mRNA Activation in Mouse	rected Against the 3' No Oocytes", Science, 198	ncoding Region Prevents 8, <i>241</i> , 680-684
	BF	Stull et al., "Antigene, Ribozyme an Prospects", <i>Pharm. Res.</i> , 1995 , <i>Pharm.</i>	nd Aptamer Nucleic Aurm. Rev., 12, 465-482	cid Drugs: Progress and
V	BG	Tseng et al., "Antisense Oligonucle Therapeutics", Cancer Gene Therap	otide Technology in the peutics, 1994, 1, 65-71	ne Development of Cancer
1	ВН	Uhlmann et al., "Antisense Oligonu Rev., 1990, 90, 543		
EXAMINE	ER		DATE CONSIDER	RED 4/29/03

		TADEMARK SET		Sheet 4 of 15
	Form I	PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783
	C	Patent and Publications ited by Applicant eral sheets if necessary)	Applicant Stanley T. Crooke	
		epartment of Commerce and Trademark Office	Filing Date January 7, 2000	Group Not Yet Assigned
	OTHER	R DOCUMENTS (Including Author	r, Title, Date, Pertine	nt Pages, Etc.)
M	BI	Westermann et al., "Inhibition of ex antisense oligodeoxyribonucleotides	pression of SV40 virus,", <i>Biomed. B. Acta.</i> , 1	s large T-antigen by 989, 48, 85-93
	BJ	Agrawal, S. et al., "Synthesis and A Their Phosphorothioate Analogs," A	nti-HIV Activity of Ol Inn. N.Y. Acad. Sci., 19	ligoribonucleotides and 992, 2-10
	BK	Agrawal, S., "Antisense Oligonucle 1996 , <i>14</i> , 376-388	otides: Towards Clinic	cal Trials," <i>TIBTECH</i> ,
	BL	Akashi et al., "Novel Stationary Pha Selective Recognition of Nucleoside Supported Silica Gel ¹⁾ ", <i>Chem. Lette</i>	es and Nucleotides on	natography. Nucleobase- Poly(9-vinyladenine)-
	BM	Alberts et al., "DNA-Cellulose Chron	natography", Meth. Enz	ymol., 1971, 21, 198-217
	BN	Arndt-Jovin et al., "Covalent Attach 1975, 54, 411-418	nment of DNA to Agar	rose", Eur. J. Biochem.,
	ВО	Blanks et al., "An oligodeoxynucleo specific DNA binding proteins", Ni	otide affinity column f ucleic Acids Res., 1988	for the isolation of sequence 1, 16, 10283-10299
	BP	Blomberg, P., "Control of replication antisense RNA, CopA, and its target vitro by Rnase III", EMBO J., 1990	et, CopT, is processed	duplex between the specifically <i>in vivo</i> and <i>in</i>
	BQ	Branch, A., "A Good Antisense is I	Hard to Find," TIBS, 19	998, <i>23</i> , 45-50
V	BR	Bunemann et al., "Immobilization of Efficiency of different coupling pro	of denatured DNA to nocedures", Nucl. Acids	nacroporous supports: I. <i>Res.</i> , 1982 , <i>10</i> , 7163-7180
BS Bunemann, H., "Immobilization of denatured DNA to macroporous supports: Steric and kinetic parameters of heterogeneous hybridization reactions", <i>Nucl. Acids Res.</i> , 1982 , <i>10</i> , 7181-7196				acroporous supports: II. ion reactions", <i>Nucleic</i>
EXAMI	NER		DATE CONSIDE	RED 4/29/03
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			RADEMARK SH		Sheet 5 of 15	
	J	Form]	PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783	
		C	Patent and Publications Cited by Applicant veral sheets if necessary)	Applicant Stanley T. Crooke		
			epartment of Commerce and Trademark Office	Filing Date January 7, 2000	Group Not Yet Assigned	
	(OTHE	R DOCUMENTS (Including Author	r, Title, Date, Pertine	nt Pages, Etc.)	
(x	1	ВТ	Chodosh et al., "A Single Polypeption Activities of the Adenovirus Major 1986, 6, 4723-4733		_	
		BU	Crooke et al., "Phmarmacokinetic P. Analogs in mice", J. Pharmacol. Ex			
		BV	Dake et al., "Purification and Proper Saccharomyces cerevisiae", J. Biol.			
		BW	Day et al., "Immobilization of polyr 1991, 278, 735-740	nucleotides on magneti	c particles", Biochem. J.,	
		BX	Drmanac et al., "DNA Sequence De Efficient Large-Scale Sequencing",			
		BY	Duncan et al., "Affinity Chromatogr Protein Using Teflon-Linked Oligon			
		BZ	Dunn, J.J. et al., "Effect of RNAase Messenger RNAs", J. Mol. Biol., 19		lation of Bacteriophage T7	
		CA	Elela et al., "RNase III Cleaves Euk Dependent Site", Cell, 1996, 85, 11	-	RNA at a U3 snoRNP-	
(İ	СВ	Fahy et al., "Design and synthesis o for use in nucleic acid diagnostics",			
	IJ	CC	Fishel et al., "Z-DNA Affinity Chro 328-342	matography", Method	s Enzymol., 1990, 184,	
X	1	CD	Fodor et al., "Light-Directed, Spatia Science, 1991, 251, 767-773	illy Addressable Parall	el Chemical Synthesis",	
EXA	MINE	R ·		DATE CONSIDER	ED 4//29/05	





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EXAMINER

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	Form I	PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783			
	C	Patent and Publications ited by Applicant eral sheets if necessary)	Applicant Stanley T. Crooke				
		partment of Commerce and Trademark Office	Filing Date January 7, 2000	Group Not Yet Assigned			
	OTHER	R DOCUMENTS (Including Author	r, Title, Date, Pertine	nt Pages, Etc.)			
M	DA	Maniak, M. et al., "Evidence for a fe controls permanent expression of a 2 5375-5380	eedback regulated back Dictyostelium gene", N	x-up promoter which Nucl. Acids Res., 1990, 18,			
	DB	Matson et al., "Biopolymer Synthes. 1994, <i>217</i> , 306-310	is on Polypropylene S	upports", Anal. Biochem.,			
	Maskos, U. et al., "Oligonucleotide hybridisations on glass supports: a not for oligonucleotide synthesis and hybridisation properties of oligonucleot synthesised <i>in situ</i> ", <i>Nucl. Acids. Res.</i> , 1992 , <i>20</i> , 1679-1684						
	DD	Meegan, J.M. et al., "Double-Strand Science, 1989 , 244, 1089-1091	led Ribonuclease Coin	duced with Interferon",			
	DE	Metelev, et al., "Study of antisense segments of oligodeoxynucleotides Med. Chem. Lett., 1994, 4, 2929-29	and 2'-methyloligorib	horothioates containing onucleotides", <i>Bioorg</i> . &			
	DF	Monia, et al., "Antitumor activity of a targeted against c-raf kinase", Nature	n phosphorothioate antis Medicine, 1996, 2, 66	ense oligodeoxynucleotide 8-675			
	DG	Narhi et al., "Hydrophobic Interaction Chromatography in Alkaline pH", <i>Anal. Biochem.</i> , 1989 , <i>182</i> , 266-270					
	DH	Nellen, W.C., "What makes an mR 1993, 18, 419-424	NA anti-sense-itive?",	Curr. Opin. Cell. Biol.,			
	DI	Nellen, W. et al., "Mechanisms of gintroduced antisense RNA", Bioch	Nellen, W. et al., "Mechanisms of gene regulation by endogenous and artificially introduced antisense RNA", <i>Biochem.</i> , <i>Soc. Trans.</i> , 1992 , <i>20</i> , 750-754				
V	DJ	Nitta et al., "Purification and Some Eggs", <i>Biol. Pharm. Bull.</i> (Jpn.), 19	Properties of Ribonuc 993 , <i>16</i> , 353-356	lease from Xenopus laevis			
4	DK	Noguchi et al., "Characterization of Biol. Chem., 1994, 269, 29161-291		ment in the eIF-2 α Gene", J .			
EXAMIN	ER	5	DATE CONSIDE	RED 4/29/03			
EXAMIN	DK	Eggs", Biol. Pharm. Bull. (Jpn.), 19 Noguchi et al., "Characterization of	993, 16, 353-356 f an Antisense Inr Eler 67	ment in the eIF-2 α Gene", J.			

		Elle	ž)	Sheet 9 of 15
	Form 1	PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783
	C	Patent and Publications ited by Applicant veral sheets if necessary)	Applicant Stanley T. Crooke	
		epartment of Commerce and Trademark Office	Filing Date January 7, 2000	Group Not Yet Assigned
	OTHE	R DOCUMENTS (Including Author	r, Title, Date, Pertine	nt Pages, Etc.)
Μ	DL	Noyes et al., "Nucleic Acid Hybridiz Cellulose", Cell, 1975, 5, 301-310	zation Using DNA Co	valently Coupled to
	DM	Ohtsuki, et al., "Isolation and purific thymus", J. Biol. Chem., 1977, 252,		led ribonuclease from calf
	DN	Pease et al., "Light-generated oligon analysis", Proc. Natl. Acad. Sci. US		
	DO	Pon et al., "Derivatization of Contro Oligonucleotide Synthesis", <i>BioTech</i>		for Solid Phase
	DP	Prokipcak et al., "Purification and P Coding Region of Human c-myc ml	roperties of a Protein t RNA", J. Biol. Chem.,	hat Binds to the C-terminal 1994 , <i>269</i> , 9261-2969
	DQ	Saito, H. et al., "Processing of mRN Gene 1.2 of Bacteriophage T7", 198		Regulates Expression of
	DR	Schott, "Template-Chromatographic <i>J. Chromatogr.</i> , 1975 , <i>115</i> , 461-476		lenen Oligonukleotiden",
	DS	Seliger, H., "Handelsubliche Polymonie Makromolekulart Chemie, 1975		ligonucleotidsynthese, 1",
	DT	Seliger, H. et al., "Trager-Oigonucle Vinylalkohol und <i>N</i> -Vinylpyrrolido 609-627		
	DU	Seliger, H. et al., "Oligonucleotide S and Pyridine", <i>Tetrahedron Letters</i> ,		
M	DV	Shibahara, S. et al., "Inhibition of hur synthetic oligo-RNA derivatives," Nuc	man immunodeficiency el. Acids Res., 1989, 17	virus (HIV-1) replication by 7(1), 239-252
EXAMINI	ER		DATE CONSIDER	RED 4/29/03
		7		'' 1

				Sheet 10 of 1
,	Form	PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783
	C	Patent and Publications Cited by Applicant veral sheets if necessary)	Applicant Stanley T. Crooke	
		epartment of Commerce and Trademark Office	Filing Date January 7, 2000	Group Not Yet Assigned
	OTHE	R DOCUMENTS (Including Author	r, Title, Date, Pertine	nt Pages, Etc.)
M	DW	Siddell, S.G., "RNA Hybridization t Activated Sephadex", Eur. J. Bioche	_	•
	DX	Smith et al., "The synthesis of oigon at the 5' terminus: synthesis of fluore analysis", <i>Nucl. Acids Res.</i> , 1985 , 13	escent DNA primers fo	
	DY	Stoldt, P. et al., "Antisense RNA med indicating a novel kind of RNase activi		
	DZ	Syvanen et al., "Quantification of pobased hybrid collection", <i>Nucl. Acid.</i>	·	
	EA	Szyf et al., "Growth Regulation of M J. Biol. Chem., 1991 , 266, 10027-10		nsferase Gene Expression"
	ЕВ	McBride, L.J. et al., "An Investigation Phosphoramidites Useful for Synthe Letters, 1983, 24, 245-248		
	EC	Van Ness et al., "A versatile solid su based hybridization assays", <i>Nucleic</i>		-
	ED	Volk et al., "An antisense transcript an evolutionariy conserved 24 kd pro	-	
	EE	Wetlaufer et al., "Surfactant-Mediate Chromatography", J. Chromatograp		c-Interaction
V	EF	Wu et al., "Purification and Propertie Science, 1987, 238, 1247-1253	es of <i>Drosophila</i> Heat	Shock Activator Protein",
M	EG	Wu et al., "High Resolution Separati Methods in Enzymology, 1996, 270,	•	ological Macromolecules",
	R		DATE CONSIDERI	

Sheet 11 of 15 Docket No. Serial No. Form PTO-1449 Modified 09/479,783 **ISIS-4313 Applicant** List of Patent and Publications Stanley T. Crooke Cited by Applicant (Use several sheets if necessary) Group Filing Date U.S. Department of Commerce **Not Yet Assigned** January 7, 2000 Patent and Trademark Office OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Yashima et al., "High-performance affinity chromatography of oligonucleotides on nucleic acid EH analogue immobilized silica gel columns", J. Chromatog., 1992, 603, 111-119 Yasuda et al., "Purification and characterization of a ribonuclease from human ΕI spleen", Eur. J. Biochem., 1990, 191, 523-529 Zarytova et al., "Affinity Chromatography of DNA Fragments and P-Modified EJ Oligonucleotides", Analyt. Biochem., 1990, 188, 214-218 Zuckermann et al., "Efficient methods for attachment of thiol specific probes to the 3'-ends EK of synthetic oligodeoxyribonucleotides", Nucleic Acids Research, 1987, 15, 5305-5321

DATE CONSIDERED

EXAMINER

Form PTO-1449 Modified

Docket No. ISIS-4313

Serial No. **09/479,783**

List of Patent and Publications Cited by Applicant (Use several sheets if necessary) Applicant Stanley T. Crooke

U.S. Department of Commerce Patent and Trademark Office Filing Date

January 7, 2000

Group
Not Yet Assigned

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	EL	3,687,808	08/29/72	Merigan et. al.	195	28
	EM	5,013,830	05/07/91	Ohtsuka et al.	536	27
	EN	5,023,243	06/11/91	Tullis	514	44
	EO	5,142,047	08/25/92	Tullis	514	44
	EP	5,149,797	09/22/92	Pederson et al.	536	27
	EQ	5,177,198	01/05/93	Spielvogel et al.	514	45
	ER	5,130,302	07/14/92	Spielvogel et al.	514	45
	ES	5,223,618	06/29/93	Cook et al.	544	276
	ET	5,235,033	08/10/93	Summerton et al.	528	391

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Country	Translation YES NO	
	EU	WO 92/22651	12/23/92	PCT	XX	
	EV	WO 92/20822	11/26/92	PCT	XX	
	EW	WO 92/20823	11/26/92	PCT	XX	
	EX	WO 94/17093	08/04/94	PCT	XX	
	EY	WO 94/02499	02/03/94	PCT	XX	
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Form PTO-1449 Modified				Serial No 09/479,7 8	
C	ited by Applicant		Applicant Stanley T. Crooke		
J.S. De Patent	partment of Comme and Trademark Offi	erce ce	Filing Date January 7, 2000	Group Not Yet	Assigned
	U.	S. PATENT D	OCUMENTS		
	Document No.	Date	Name	Class	Subclass
EZ	5,256,775	10/26/93	Froehler	536	25.6
FA	5,264,562	11/23/93	Matteucci	536	23.1
FB	5,264,564	11/23/93	Matteucci	536	23.1
FC	5,359,044	10/25/94	Cook et al.	536	23.1
FD	5,366,878	11/22/94	Pederson et al.	435	91.3
FE	5,378,825	01/03/95	Cook et al.	536	25.34
FF	5,459,255	10/17/95	Cook et al.	536	27.13
FG	5,457,191	10/10/95	Cook et al.	536	27.13
FH	5,466,786	11/14/95	Buhr et al.	536	26.26
FI	5,476,925	12/19/95	Letsinger et al.	536	23.1
	FOR	EIGN PATEN	T DOCUMENTS		
	Document No.	Date	Country	YES T	ranslation NO
FJ	WO 94/02501	02/03/94	PCT	XX	
FK	339,842	11/02/89	ЕРО	XX	
FL	2-264792	10/29/90	Japan		XX
FM	WO 92/07065	04/30/92	PCT	XX	
<u> </u>			DATE CONSIDE	RED /	1/12
	EZ FA FB FC FD FE FF FG FH FI FI FL	Cited by Applicant Use several sheets if necess U.S. Department of Comme Patent and Trademark Offi U. Document No. EZ 5,256,775 FA 5,264,562 FB 5,264,564 FC 5,359,044 FD 5,366,878 FE 5,378,825 FF 5,459,255 FG 5,457,191 FH 5,466,786 FI 5,476,925 FORD Document No. FJ WO 94/02501 FK 339,842 FL 2-264792 FM WO 92/07065	U.S. Department of Commerce Patent and Trademark Office U. S. PATENT Department of Commerce Patent and Trademark Office U. S. PATENT Department No. EZ 5,256,775 10/26/93 FA 5,264,562 11/23/93 FB 5,264,564 11/23/93 FC 5,359,044 10/25/94 FD 5,366,878 11/22/94 FE 5,378,825 01/03/95 FF 5,459,255 10/17/95 FG 5,457,191 10/10/95 FH 5,466,786 11/14/95 FI 5,476,925 12/19/95 FOREIGN PATENT Department No. Date FJ WO 94/02501 02/03/94 FK 339,842 11/02/89 FL 2-264792 10/29/90 FM WO 92/07065 04/30/92	Cited by Applicant Use several sheets if necessary) U.S. Department of Commerce Patent and Trademark Office Document No. Date Name	Applicant Stanley T. Crooke Stanley T. Crooke

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RAFIN F 1 ()-1447 MOUNTICU				Docket No. ISIS-4313	,		
List of Patent and Publications Cited by Applicant (Use several sheets if necessary)				Applicant Stanley T. Crooke	Applicant Stanley T. Crooke		
	U.S. De	epartment of Comme and Trademark Offi	erce	Filing Date January 7, 2000	Group Not Yet	163) Assigned	
		U.	S. PATENT D	OCUMENTS			
xaminer nitial		Document No.	Date	Name	Class	Subclass	
M	FW	4,373,071	02/08/83	Itakura	525	375	
\	FX	4,401,796	08/30/83	Itakura	525	340	
	FY	4,469,863	09/04/84	Ts'o et al.	536	27	
	FZ	4,507,433	03/26/85	Miller et al.	525	54.11	
	GA	4,812,512	03/14/89	Buendia et al.	525	54.11	
	GB	4,908,405	03/13/90	Bayer et al.	525	61	
	GC	5,391,667	02/21/95	Dellinger	526	264	
	GD	5,519,134	05/21/96	Acevedo et al.	544	243	
- M	GE	5,614,617	03/25/97	Cook et al.	536	23.1	
me to	GF	5,962,425	10/05/99	Walder et al.	514	44	
		FOR	EIGN PATEN	T DOCUMENTS			
Examiner Initial		Document No.	Date	Country	YES T	ranslation NO	
	-		-			///	
EXAMINI	ER			DATE CONSID	ERED 4/2	29/03	

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List of Patent and Publications Cited by Applicant (Use several sheets if necessary)

Applicant Crooke

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ISIS-4313

U.S. Department of Commerce Patent and Trademark Office

Filing Date Group 1635 1/7/2000

U. S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	AA					
	AB					
· · · · · · · · · · · · · · · · · · ·	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					

FOREIGN PATENT DOCUMENTS

Examiner Initial		Document No.	Date 7/1/99	Country PCT	Translation YES NO	
- k $$	AK	WO 99/32619			X	
	AL					
	AM					
	AN					
	AO					
EXAMINER			DATE CONSI	DATE CONSIDERED 4/29/03		

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Form	PTO-1449 Modified	Docket No. ISIS-4313	Serial No. 09/479,783		
6 84	f Patent and Publications Cited by Applicant everal sheets if necessary)	Applicant Stanley T. Crooke			
S. I	Department of Commerce nt and Trademark Office	Filing Date January 7, 2000	Group 1635		
ОТНІ	ER DOCUMENTS (Including Autho	r, Title, Date, Pertine	nt Pages, Etc.)		
P\ AA	Arya, S. K. et al., "Inhibition of RN Leukemia Virus by 2'-O-Alkylated Biophysical Research Communicati	Polyadenylic Acids," E	Biochemical and		
AB	Arya, S. K. et al., "Inhibition of Synthesis of Murine Leukemia Virus in Cult Cells by Polyribonucleotides and Their 2'-O-Alkyl Derivatives," <i>Molecular Pharmacology</i> , 1976 , <i>12</i> , 234-241				
AC	DeClercq, E. et al., "Influence of vamurine leukemia virus reverse trans	arious 2- and 2'-substituscriptase," Cancer Lett	and 2'-substituted polyadenyl acids on e," Cancer Letters, 1979, 7, 27-37		
AD	Hobbs, J. et al., "Polynucleotides Containing 2'-Amino 2'-deoxyribose and 2 2'-deoxyribose," Biochem., 1973, 12, 5138-5145				
AE	Hobbs, J. et al., "Poly 2'-Deoxy-2'				
AF	Hobbs, J. et al., "Polynucleotides C Eckstein et al., Ed., 1972, 11, 4336	-deoxyribese," Biochem.,			
AG	Pieken, W. et al., "Kinetic Characte Hammerhead Ribozymes," Science	etic Characterization of Ribonuclease-Reseant 2'-Mes," <i>Science</i> , 1991 , <i>253</i> , 314-317			
АН	AH Pilet, J. et al., "Structural parameters of single and double helical polyribonucleotides," <i>Biochem Biophys Res Commun</i> , 1973, 52(2), 517-523 AI Rottman, F. et al., "Polynucleotides Containing 2'- 0-Methyladenosine. I. S by Polynucleotide Phosphorylase," <i>Biochem</i> , 1968, 7, 2634-2641				
AI					
AJ	Rottman, F. et al., "Polymers Cont Heteropolymers," <i>Biochem</i> , 1969,	aining 2'- <i>O</i> -Methylnuc 8(11), 4354-4361	cleotides. II. Synthesis of		
Ak	Wincott et al., "Synthesis, deproted ribozymes," Nucl. Acids Res., 1995	ction, analysis and puri 5, 23(14), 2677-2684	ification of RNA and		
AL AL	Zmudzka, B. et al., "Poly 2'-0-met polynucleotide structure," Biocher	hylcytidylic acid and t m Biophys Res Commu	he role of the 2'-hydroxyl in n, 1969, 37(6), 895-901		
EXAMINER	15	DATE CONSIDE	RED 4/29/03		



Form P'K@

List of Patent and Publications Cited by Applicant (Use several sheets if necessary)

U.S. Department of Commerce

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Applicant

Stanley T. Crooke

Filing Date

DATE CONSIDERED 9

Group

Patent and Trademark Office			January 7, 2000 1635			
		U.	S. PATENT D	OCUMENTS		
Examiner Initial		Document No.	Date	Name	Class	Subclass
M	AM	5,804,683	09/08/98	Usman et al.	536	25.31
W	AN	5,891,683	04/06/99	Usman et al.	435	91.31
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					TECH CENTER 1800/2800	R H
	-				岩石	
					00 2	PO
	1				90	3
		FOR	EIGN PATEN	T DOCUMENTS		
Examiner Initial		Document No.	Date	Country	Translation YES NO	
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